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| APPLICATION NO.   | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO.             | CONFIRMATION NO. |
|---|-------------|----------------------|---------------------------------|------------------|
| 10/829,202  | 04/22/2004  | Nobuhiro Kihara      | 252115US6                       | 5543             |
| 22850   | 7590        | 08/10/2005           |                                 |                  |
| OBLON, SPIVAK, MCCLELLAND, MAIER & NEUSTADT, P.C.<br>1940 DUKE STREET<br>ALEXANDRIA, VA 22314 |             |                      |                                 |                  |
|   |             |                      | EXAMINER<br>AMARI, ALESSANDRO V |                  |
|   |             |                      | ART UNIT<br>2872                | PAPER NUMBER     |

DATE MAILED: 08/10/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/829,202

Applicant(s)

KIHARA, NOBUHIRO

Examiner

Alessandro V. Amari

Art Unit

2872

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-4 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-4 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 22 April 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_.

## **DETAILED ACTION**

### ***Claim Objections***

1. Claim 3 is objected to because of the following informalities:

Regarding claim 3, lines 5-6, the phrase "can be regulated" renders the claim ambiguous since it is uncertain whether the limitation following the phrase is part of the claimed invention. Appropriate correction is required.

### ***Claim Rejections - 35 USC § 102***

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1 and 4 are rejected under 35 U.S.C. 102(b) as being anticipated by Shirakura et al US 6,195,185.

In regard to claim 1, Shirakura et al teaches (see Figures 5A, 5B) a holographic stereogram forming apparatus comprising a laser source (31) for emitting a laser beam; beam separating means (33, 34) for separating said laser beam emitted from said laser source into a reference beam and an object beam; reference beam irradiating means (40, 41, 42) for irradiating a hologram recording medium (10) with said reference beam separated by said beam separating means; a spatial beam modulator (37) for displaying an image and modulating said object beam separated by said beam separating means; a one-dimensional diffuser plate for diffusing said object beam modulated by said spatial one-dimensional direction as described in column 7, lines 40-53; and an object

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projection optical system (38, 39) disposed between said spatial beam modulator and said one-dimensional diffuser plate, for processing said object beam modulated by said spatial beam modulator in such a manner that, in said one-dimensional direction of said one-dimensional diffuser plate said image displayed by said spatial beam modulator is formed on said one-dimensional diffuser plate, and, in a direction substantially orthogonal to said one-dimensional direction, said object beam is condensed on said hologram recording medium as described in column 6, lines 19-67, column 7, lines 1-5 and 40-53.

Regarding claim 4, Shirakura et al further teaches (see Figures 4, 6) means for shutting off said laser source as described in column 5, lines 63-67 and column 6, lines 1-5; a mechanism (51, 52) for intermittently feeding said hologram recording medium and a control mechanism (22) for regulating the timings of the display of said image by said spatial beam modulator and the operation of said intermittent feeding mechanism as described in column 7, lines 54-67 and column 8, lines 1-17.

***Claim Rejections - 35 USC § 103***

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over Shirakura et al US 6,195,185 in view of McGrew US 4,411,489.

Regarding claim 2, Shirakura et al teaches the invention as set forth above but does not teach said object projection optical system comprises a spherical lens system for forming said image displayed by said spatial beam modulator in said one-dimensional direction, and a cylindrical lens system for condensing said object beam into said direction substantially orthogonal to said one-dimensional direction.

Regarding claim 2, McGrew teaches (see Figure 4C) object projection optical system comprises a spherical lens system (48) for forming said image displayed by said spatial beam modulator in said one-dimensional direction, and a cylindrical lens system (46) for condensing said object beam into said direction substantially orthogonal to said one-dimensional direction as described in column 5, lines 4-26.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to utilize the lens system of McGrew in the holographic stereogram forming apparatus of Shirakura et al in order to allow for the use of smaller and less expensive lenses as described in column 5, lines 36-45 of McGrew.

6. Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Shirakura et al US 6,195,185 in view of McGrew US 4,411,489.

Regarding claim 4, Shirakura et al in view of McGrew teaches the invention as set forth above but does not teach that the condensing position of said object beam condensed into said direction substantially orthogonal to said one-dimension direction can be regulated by regulating the spacing between said spherical lens system and said cylindrical lens system. It is well known in the optical projection art to adjust the spacing of an image projection lens system. It would have been obvious to one having ordinary

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skill in the art at the time the invention was made to regulate the spacing of the lens systems of Shirakura et al in view of McGrew in order to obtain optimum focus of the object beam on the hologram recording medium and thus produce a hologram with higher resolution.

### ***Conclusion***

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Shirakura US 6,400,474 teaches a holographic stereogram forming apparatus that utilizes a one-dimensional diffuser plate as described in column 6, lines 48-60. Kihara et al US 5,949,559 teaches a holographic stereogram forming apparatus that utilizes a one-dimensional diffuser plate as described in column 6, lines 34-42 and Kihara US 6,185,018 teaches a holographic stereogram forming apparatus that utilizes a one-dimensional diffuser plate as described in column 10, lines 20-37.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Alessandro V. Amari whose telephone number is (571) 272-2306. The examiner can normally be reached on Monday-Friday 8:00 AM to 5:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Drew Dunn can be reached on (571) 272-2312. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

ava~~all~~  
02 August 2005

Alessandro Amari

Alessandro Amari

Examiner AU2872